Physical activity programmes and interventions II:

{ Workplace
Diverse populations
Life transitions

Hassandra Mary, PhD.

Workplace

- Physical activity programmes and interventions

- Transportation
- Automation
- IT technology

Changes to working environments

- Health and wellbeing benefits including physical, mental, environmental and social benefits
- Maintains a high standard of work
- Improves the social environment
- Reduces stress in the workplace
- Reduces sick leave
- Improves work productivity
- Increases job satisfaction and staff morale.

Advantages of physical activity in the workplace

Barriers

- Shortage of time
- Requires approval and endorsement from management
- Gaining support and endorsement can take time
- Lack of funds
- Sustainability of the program, sometimes it is difficult to sustain long term interest and enthusiasm
- Staff participation may be lacking due to time, access, awareness, culture and location.
- Lack of interest and staff
- Inadequate space and facilities such as showers and bike storage

- Flexible working time practices/family friendly policies that allow parents to walk children to school
- Encourage active commuting through green travel plans
- Incentive schemes to enable staff to buy bikes etc
- Maximise opportunities for PA at work, encourage walking to meetings, ensure good facilities, showers, bike racks
- Consider design of buildings which can encourage PA
- Endorse structured PA – sponsoring PA team activities
- Raise the profile of PA – market achievements of employees

PA: Integral to all parts of the working day

- the use of posters/signs can increase stair (instead of lift) usage
- written materials can increase stair use
- Painting/placing artwork in stairwells
- Designing buildings with stairs in a prominent position
- Make stairs an integral part of the building which encourage users to use them to move between floors (more open plan system)
- Make access to lifts controlled

Stair walking interventions

National Institute for Health and Clinical Excellence (2008) Physical activity and the environment: Costing Report NICE Public Health Guidance 8.

Walking interventions

walking or cycling part or all of the way to work.

- Facilitated goal setting (1 study)
- Diaries and Self-monitoring (3 studies)
- Walking Routes (1 study)

can increase daily step count of employees

Evidence suggests that employees who use public transport are more active overall than car users.

Mutrie et al., 2002

- Workplace health screening
- Workplace counselling
- Employee designed interventions (including written health information)
- Health information delivered through regular workshops
- Group led exercise sessions
- Use of health messages delivered by email on PA
- Organizing races – sport events for employees

What works…

- **Twenty-six percent of the participants met the PA guideline simply by cycling to work, with health as the main reason.**
- The main **barriers** for non-cyclists (60%) were **perspiration** when arriving at work, **weather** and travelling **time**.
- **Shorter travelling times** compared with other transportation modes were an important **facilitator**.

Netherlands study (cycling)

Engbers & Hendriksen (2010): Cyclists in the Netherlands

Critique

- Evidence in support of worksite interventions has been mixed at best.
- More recent and methodologically sound workplace interventions have shown generally favorable outcomes, especially when they have used **individually tailored theory-based materials** and/or environmental prompts, although, …
  - **PA programs were attended mostly by those who were either already exercising or highly motivated to do so.**
  - **PA gains were typically short-term**

- M**ore inclusive sampling designs**, thus including employees who may be less motivated to change at intervention outset.
- More **randomized controlled trials** that test and report on specific intervention protocols could improve our understanding of exactly **what intervention components are most efficacious**.
- Future studies should test **more comprehensive approaches** that combine previously efficacious intervention components, such as **individually tailored, theory-based programs, with environmental prompts**.
- Additional **environmental interventions** that remain to be tested include adding shower facilities, bike racks, walking trails, and stairway enhancements.

Future Directions and Research Recommendations

- Future studies could also benefit from **longer follow-up periods**, with programs not seen as interventions but rather as **part of the regular workplace culture**.
- Within this framework, **technology** should be used to allow for easier integration with other workplace tasks.
- **Provide valued rewards for positive behavior change** that do not undermine intrinsic motivation or workplace productivity.

Future Directions and Research Recommendations

Relevant reviews

- Dishman R, Oldenburg B, O'Neil, et al. (1998). Worksite physical activity interventions. American Journal of Preventive Medicine 15(4): 344-61.
- Proper KI, Koning M, Van der Beek AJ, Hildebrandt VH, Bosscher R, Van Mechelen W. The effectiveness of worksite physical activity programs on physical activity, physical fitness and health. Clin J Sport Med 2003;13(2):106-117.
- Badland, H. M. & Schofield, G. M. (2004) Physical Activity Interventions in the Workplace: A Review and Future for New Zealand Research. *New Zealand Journal of Sports Medicine* 32, 14-19.
- Dugdill L, Brettle A, Hulme C, McCluskey S and Long AT (2008) Workplace physical activity interventions: a systematic review, International Journal of Workplace Health Management, 1:1: 20-40
- Karin Proper & Willem van Mechelen (2007). Effectiveness and economic impact of worksite interventions to promote physical activity and healthy diet. WHO report

Life transitions

{ Physical activity programmes and interventions

- Among teenagers and young women these changes include the transition:
  - from childhood to adulthood,
  - changing schools,
  - first time employment
  - changing tastes for types of activity with age
- Among adults and older adults these changes in life circumstances included:
  - becoming disabled
  - the death of a spouse or partner (Cooper and Thomas, 2002).

Life changes have a negative effect on participation in PA

Allender et al., 2006

Review:

'What different life events have been studied in the peer-review literature with participation in PA as the outcome?'

ALLENDER, HUTCHINSON & FOSTER (2008). Life-change events and participation in physical activity: a systematic review. *Health Promotion International, 23 (2),* 160-172.

1. change in employment status
2. change in residence
3. change in physical status
4. change in relationships
5. change in family structure

5 broad areas of life event:

- Brown and Trost (2003) found that levels of PA decreased in women who had begun paid work regardless of age, income, educational attainment, language spoken at home, BMI at follow-up or baseline PA.
- Bell and Lee (2006): Females who began work at an earlier age (e.g. at age 18) were less likely to be physically active than those women who begun paid employment later in life (e.g. at age 23).

1. Change in employment status

- A change in residential status was associated with a decrease in PA (Bell and Lee, 2005; Butler et al., 2004).

2. Change in residence, place and circumstance

- **Pregnancy**
  - Grace et al., 2006; Devine et al., 2000: Pregnancy has no major impact upon PA levels (relied on participant recall)
- **Disease and illness**
  - Cancer: Courneya & Friedenreich, 1997; Blanchard et al., 2003; Pinto et al., 2002; Satia et al., 2004:
  - decrease in exercise levels from pre- and post-diagnosis
  - exercise levels had remained the same or decreased since pre-diagnosis.
    - No firm conclusions - they did not measure PA pre-diagnosis
- **Disability during childhood**
  - Kuh and Cooper (1992): All adults who had suffered a physical disability by the age of 13 years, and for women who had suffered a serious illness during childhood or adolescence, there were reduced levels of PA when compared with their healthier counterparts.

3. Change in physical status

- Single to married
  - Bell & Lee 2005; Brown & Trost 2003: Marriage led to a decreased participation in PA among young Australian adult females.
  - King et al. (1998): No difference between transition groups in terms of overall PA participation.
- Married to single
  - Umberson (1992): Levels of PA among men were likely to be reduced after divorce. No such pattern was observed among women. The same study found cross-sectional associations between widowhood in men and decreased participation in PA.

4. Change in relationships

- Bell & Lee 2005; Brown & Trost 2003:
  - Parenthood was associated with decreased PA participation
  - Becoming a mother for the first time led to decreased PA participation
- Barnekow-Bergkvist et al., 1996:
  - Having a first child before the age of 34 was associated with inactivity, particularly among women.

5. Change in family structure

From adolescence to adulthood

- Major changes regarding family formation, labor force participation, and childbearing occur.
- Hogan (1978), has shown that the patterns attained during this period are more important than family background for ordering key events in the life cycle.
- Longitudinal patterns of physical activity and sedentary behavior in ethnically diverse teens as they transition to adulthood (Gordon-Larsen, et al., 2004):
  - The vast majority of adolescents do not achieve five or more bouts of moderate physical activity per week, and continue to fail to achieve this amount of activity into adulthood.
  - Greater proportions of females, particularly Hispanic and black females, failed to achieve favorable activity patterns at adolescence and into adulthood.
  - Among active adolescence, there is a substantial age-related decline in activity.

- Life events such as getting married, having children, and starting work are associated with decreased levels of PA in young adult women

Brown & Trost (2003). Life Transitions and Changing Physical Activity Patterns in Young Women. Am J Prev Med, 25(2) 140 –143.

- What information from these target groups are useful for your project?
- Have you thought about special populations' needs on your programme?

Group work

References

- Gordon-Larsen, Nelson, Barry, & Popkin (2004). **Longitudinal Physical Activity and Sedentary Behavior Trends: Adolescence to Adulthood.** Am J Prev Med, 27(4)
- **Brown & Trost (2003). Life Transitions and Changing Physical Activity Patterns in Young Women. Am J Prev Med, 25(2) 140 –143.**

Thank you

{